INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

Some 18 million people in southern Africa may starve to death this year as a result of drought. This, and the havoc wreaked by an increasing number of other natural disasters around the world, makes international efforts for natural disaster reduction all the more urgent.

Since 1990 alone, there have been volcanic eruptions in Japan, the Philippines and Nicaragua; earthquakes in Iran, Guatemala, Costa Rica and Turkey; devastating floods in China; a cyclone in Bangladesh; and tidal waves in Nicaragua. The United States has recently undergone the costliest natural disaster in its history, Hurricane Andrew. And such events are on the rise.

Deaths associated with disasters have increased 50 per cent each decade since the 1950s, according to the World Bank, with 3 million deaths over the past two decades and 162,000 in 1991 alone. The related losses in financial terms have increased about three times from the 1960s to the 1980s; global losses just for 1990 were estimated at $47 billion.

But the losses, both human and economic, fall disproportionately on the world's poorer countries: Between 1970 and 1985, developed countries suffered only 3 per cent of the world's major disasters, but death rates in the less developed nations were about 100 times greater.

To combat the ominous effects of disasters ranging from sudden geophysical phenomena (volcanoes, earthquakes, floods, cyclones) to less sudden natural catastrophes (drought) and manmade disasters (civil strife, massive population movements and chemical/nuclear accidents), over the years the United Nations system has mobilized several of its agencies to acquire and apply the necessary scientific and technical knowledge and to assist countries in disaster preparedness and mitigation activities. In 1987, the United Nations designated the 1990s the International Decade for Natural Disaster Reduction (IDNDR). Launched on 1 January 1990, it is intended to be a period in which the international community, under United Nations auspices, builds international cooperation in order to reduce loss of life, property damage, and the social and economic disruption caused by natural disasters.

More specifically, the Decade's goals are to:

- Improve each country's capacity to mitigate the effects of natural disasters;
- Devise guidelines and strategies for applying existing knowledge;
- Foster scientific and engineering endeavours to close critical gaps in knowledge; and
- Develop and disseminate information on and evaluate the effectiveness of measures for assessing, predicting, preventing and mitigating natural disasters through programmes of technical assistance and technology transfer, demonstration projects, education and training. Governments are also asked to set up a national assessment of risks, national and/or local prevention and preparedness plans, and global, regional, national and local warning systems by the year 2000.

An International Framework of Action for the Decade was adopted in 1989, setting out some of the activities to be undertaken at the national level as well as within the United Nations system. The Decade secretariat, established in Geneva in 1990, now forms part of the Department of Humanitarian Affairs (DHA) of the United Nations. A Scientific and Technical Committee (STC), comprising up to 25 high-level specialists, provides guidance on substantive issues, while a Special High-Level Council, composed of well-known personalities, assists in creating global awareness about natural disaster reduction. In addition, the second Wednesday of each October has been designated the International Day for Natural Disaster Reduction, to draw attention to efforts now under way and to encourage

UNITED NATIONS

more concerted global action. A world conference of national committees for the Decade is planned for spring 1994, to evaluate progress of the Decade at its mid-term.

UNITED NATIONS ROLE BROADENED

Although the United Nations has long provided assistance to countries affected by natural and manmade disasters—the Office of the United Nations Disaster Relief Coordinator (UNDRO) was established in 1971 as the focal point for the United Nations system's disaster relief and mitigation activities—it has recently stepped up its involvement in this area. DHA, which incorporates the former UNDRO as well as other offices dealing with complex emergencies and the IDNDR secretariat, is headed by an Under-Secretary-General who also serves as the United Nations Emergency Relief Coordinator. The Department, with offices in New York and Geneva (the latter being known as DHA-UNDRO), helps to improve the coordination of humanitarian assistance in the United Nations and ultimately to create a more effective and streamlined emergency management capacity for handling specific complex emergencies. Policy coordination and leadership is exercised in New York, while the technical operational part of emergency management continues to be carried out in Geneva.

As a result of growing needs for disaster relief, international aid increased significantly in recent years and totalled some $2.86 billion in 1990-1991, with about $207 million channelled through UNDRO alone, or 15 times more than in 1986-1987. It is expected that with the integration of UNDRO into DHA, an even larger amount of international assistance will be channelled through the United Nations system in future years.

In times of disaster, it is DHA's role to assess the damage and evaluate emergency needs, mobilize aid from the international community and coordinate relief activities. Building on earlier work done by UNDRO before its incorporation into the Department, DHA also has a role to play in system-wide preparedness. Along with other United Nations agencies, it continues to provide technical assistance to developing countries enabling them to forecast and monitor seismic and volcanic activity, landslides, floods and coastal storms, to prevent floods and to mitigate and assess resulting damage. Of particular importance are training activities, such as the three-year Disaster Management Training Programme (DMTP) jointly operated by DHA and the United Nations Development Programme (UNDP), with the overall goal of improving the capacity of both organizations in the areas of disaster mitigation and response. By the end of 1991, the Programme had produced 14 training modules and guides as well as two training videos and sponsored more than 25 courses at subregional and national levels. A Disaster Management Manual has also been prepared which describes the policies and procedures for coordinated inter-agency operational preparedness and response.

Scenario studies of potential high-risk events in disaster-prone areas, and the development of a local disaster mitigation "culture" with indigenous roots, are other undertakings of DHA-UNDRO, which also publishes surveys of risks, training guidebooks, reports on specific disaster situations and statistical studies of the economic impact of disasters in order to quantify how disaster-prone individual countries are. It maintains a disaster management reference library, is producing a multilingual IDNDR terminology, and sponsors fellowships and seminars.

DISASTERS, THE ENVIRONMENT AND DEVELOPMENT: A COMPLEX LINK

"The rising toll of losses from natural disasters is an important but often neglected manifestation of global change," says James Bruce, Chairman of the Scientific and Technical Committee. And that leads to a vexing question: "Are the natural hazards that turn into disasters more severe and frequent than in earlier decades, or has the growing human population and its activities become increasingly exposed to the hazards, turning hazard into disaster?"

Dr. Bruce points out the human influences on natural hazards, including the removal of forests from the slopes of river basins, the erosion of agricultural soils leading to sedimentation of river mouths, and channel obstructions which contribute to increased flood levels and damage. The impact of global warming on certain types of disasters is a matter of growing international concern as well. By the same token, some kinds of natural disasters—notably volcanic eruptions—have significantly changed the composition of the atmosphere: Some meteorologists theorize that the lava flows from the 1990 eruption of Mt. Pinatubo in the Philippines are responsible for a considerable cooling of vast sections of the Earth in 1992, although others would argue that the burning oil wells of Kuwait share the blame. There is also speculation that when the drought in the western Sahel ends, there will be more frequent and severe hurricanes in North America.

"There is little doubt," however, warns Dr. Bruce, that "the main factor causing the increased natural disaster losses is not changes in natural hazards, but the increasing vulnerability of human communities to these environmental hazards. *The major global change affecting the damage statistics is the rapidly increasing population and human activity in coastal zones and in earthquake, drought and flood-prone areas of the world.*"

Although economic development reduces disaster losses in the aggregate, as Caroline Guarnizo, Staff Director of the United States Committee for the IDNDR, points out, it can also increase the risk of disasters: She cites dams built in seismic zones, agriculture in once-forested areas and construction in flood plains. Changing economic relations, she notes, have forced populations, and especially the poor, to move into hazardous locations.

"By the year 2010 more than 50 per cent of the world population will live in urban centres," notes Jan Eliasson, Under-Secretary-General for Humanitarian Affairs. "Such intense urbanization will increase vulnerability to a broad variety of hazards and give disaster mitigation activities even greater urgency," he adds.

The world will face more and worse disasters in the future, argues another member of the U.S. Committee, Henry Quarantelli, saying that losses will be greater due to new and increasing kinds of technological accidents that can be triggered in disasters, such as chemical leaks in earthquakes. Furthermore, he warns, technological advances add complexity to old threats (fire prevention measures in high-rise buildings, for example, retard fires but create toxicity risks). There are also new versions of past dangers, and exposure to new risks because of our dependency on such new technologies as computers.

The link between disasters, the environment and development is further illustrated by the rising sea levels caused by global warming. With global mean temperatures projected to increase 0.3 degrees Centigrade per decade during the next century, a 6-centimetre-per-decade rise in sea levels is expected. Some 60 per cent of the world's population already lives in coastal areas, while 65 per cent of cities with populations above 2.5 million are located along coasts. "The frequency of severe storm surges in the island nations of the Pacific and Indian Oceans, the Caribbean Sea, the Bay of Bengal, the Philippines, Florida and other regions will be exacerbated by sea level rise," warns Dr. Bruce.

In his report on the work of UNDRO in 1991, the Secretary-General leaves no doubt as to the outcome of increased development:

"The stark reality of disaster occurrence is that the number of persons at risk increases with popula-

tion growth. On top of this, the level of vulnerability of the growing population rises faster because of the progressive overspill of the least privileged and most poorly protected people into zones of ever higher risk. *Except where the effort invested in mitigation equals the population growth rate plus the accelerating vulnerability factor, the magnitude of disasters will inevitably continue to grow."*

For all these reasons, natural disaster reduction is a key element in the Rio Declaration, adopted in June 1992 by the United Nations Conference on Environment and Development: Principle 18 states, "States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted."

"Natural disasters frequently set back the hard-won economic development of developing countries, with periodic drops in national economic output highly correlated with the occurrence of major natural disasters," says Dr. Bruce. And since about 95 per cent of disaster-related deaths occur in the developing world, the Decade is, as he notes, an excellent opportunity to improve international cooperation to reduce those tragic losses.

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